

ABSTRACT OF DISCLOSURE

Fiber optic transmitter and receiver electrical elements are implemented on separate vertical boards in fiber optic modules. A single optical block implements lenses and

5 reflecting surfaces to minimize manufacturing costs. In one embodiment the receiver and transmitter are mounted to receive and transmit vertical boards respectively to nearly face each other but being offset to avoid optical cross talk. In a

second embodiment, receiver and transmitter are mounted

10 parallel with the printed circuit boards to save additional space. The vertical boards have ground planes to minimize electrical cross talk. A shielded housing provides further shielding for EMI. Manufacturing steps of the fiber optic transceiver are disclosed which provide reduced manufacturing
15 costs.